Statutory-Backed Continuous Disclosure Regime and Corporate Disclosure Behaviour – Does Corporate Governance Matter?

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Abstract

Since 1 December 2002, the New Zealand Exchange's (NZX) continuous disclosure listing rules have operated with statutory backing. To test the effectiveness of the new corporate disclosure regime, we compare the change in quantity of market announcements (overall, non-routine, non-procedural and external) released to the NZX before and after the introduction of statutory backing. We also extend our study in investigating whether the effectiveness of the new corporate disclosure regime is diminished or augmented by corporate governance mechanisms including board size, providing separate roles for CEO and Chairman, board independence, board gender diversity and audit committee independence. Our findings provide a qualified support for the effectiveness of the new corporate disclosure regime regarding the quantity of market disclosures. There is strong evidence that the effectiveness of the new corporate disclosure regime was augmented by providing separate roles for CEO and Chairman, board gender diversity and audit committee independence, and diminished by board size. In addition, there is significant evidence that share price queries do impact corporate disclosure behaviour and this impact is significantly influenced by corporate governance mechanisms. Our findings provide important implications for corporate regulators in their quest for a superior disclosure regime.

1 Introduction

Corporate regulation has long been controversial. However, with the increasingly integrated global economy and the upsurge in corporate scandals over the last decade, there is renewed interest in the identification and implementation of best-practice regulatory frameworks (Lopez-de-Silanes, 2003). The enforcement of more rigorous disclosure rules has been a priority in many regulatory reform programs that have been implemented across jurisdictions (Coglianese et al., 2004; Ferrell, 2004). For example, in New Zealand, a major regulatory reform occurred with an amendment to the Securities Markets Act 1988 (SMA). From 1 December 2002 this amendment introduced statutory sanctions to support the NZX's[1] continuous disclosure (CD) listing rules. As there is little evidence on the effectiveness of such mandatory disclosure regimes[2], this study seeks to examine the impact of statutory sanctions on the quantity of public disclosures by NZX-listed companies.

Broadly, the benefits obtained from corporate disclosure regulation relate to how successful the regulatory regime meets two complementary objectives: (1) ensuring that investors have sufficient timely information to make informed decisions, and (2) preventing unfair access to information and insider trading. Internationally, these objectives are jointly addressed through periodic and continuous reporting.

Periodic financial reporting has the advantage of being structured and heavily regulated, but the information reported can be stale by the time it reaches investors. Continuous reporting can address the staleness issue but it is hard to regulate because it is difficult

[1] The New Zealand Exchange Limited, which was formerly referred to as NZSE prior to 30 May 2003, is now referred to as NZX.
[2] For the studies that examined the CD Regime in Australia in various contexts, refer to Brown et al. (1999), Gallery et al. (2002), and Chan et al. (2007).

to establish when company insiders possess material information that should be released to investors. As a consequence, alternative regulatory approaches are evident across jurisdictions[3]. For example, securities regulation in the U.S. require SEC filing of quarterly financial reports and details about certain events (Form 8-K statements) within four business days after the event has occurred[4]. In contrast, Australian, U.K. and now New Zealand securities regulations require half-yearly reporting and the continuous disclosure of price-sensitive information. In contrast to the prescriptive U.S. approach, the principles-based CD approach provides managers with considerable disclosure discretion in the lengthy time period between periodic reports.

The New Zealand setting provides an ideal environment to examine the effectiveness of a statutory-backed continuous disclosure regime for a number of reasons. First, the statutory regime was introduced only recently; hence, the formulation of the rules, and the accompanying provisions and guidance have benefited from the experiences in other jurisdictions (notably Australia) and coincided with the recent strengthening of corporate governance rules. Prior to the statutory regime, there was only a listing rule requirement to make timely disclosures. Second, most related research focuses on the U.S. market where a strong culture of private enforcement of tort and securities laws tends to mask the impact of public enforcement. Moreover, recent U.S. research has focused on the effectiveness on rules designed to prevent selective disclosure (Regulation FD) rather than on continuous disclosure. Therefore, the U.S. research is of limited usefulness in informing debates about the effectiveness of continuous disclosure

[3] See Golding and Kalfus (2004) for an international comparison of disclosure regimes in the U.S., U.K., Canada, Australia, New Zealand, Hong Kong and Singapore.
[4] In 2001 the SEC Chairman raised the possibility of a statutory-backed continuous disclosure regime to address disclosure issues arising from the Enron and other corporate scandals. However to date, only the scope of the Form 8-K disclosure obligations has been extended (Golding and Kalfus, 2004).

regimes. Third, while the New Zealand CD rules are very similar to those adopted in Australia, the New Zealand regulatory environment is significantly different. New Zealand has relatively light handed regulation and has a less litigious business environment. Indeed, there is little evidence of active enforcement of the New Zealand statutory-backed CD regime[5] compared to the recent trends in Australia[6]. Fourth, from a research design perspective, a reliable data source exists to effectively test the impact of statutory sanctions because disclosure documents lodged with the NZX are available in electronic form for a number of years prior to and subsequent to the introduction of statutory sanctions. Fifth, in addition to the continuous disclosure requirement, the NZX has the power to issue "price queries" to its listed firms. This is a unique regulatory strategy in Australia and New Zealand that the market provider monitors the market and has the power to elicit responses from firms to explain fluctuations or unusual trading patterns in their securities. The price queries regime can be seen as a precursor to possible disclosure breaches (Marsden et al., 2008; Di-Lernia and Aspris, 2011). Whilst price queries have been studied in the context of market reaction to firms' responses (Gong, 2007; Drienko and Sault, 2011), the price queries regime has not been substantially examined in the context of firms' disclosure behaviour.

To evaluate the effect of statutory sanctions on corporate disclosure behaviour, we examine changes in the quantity of market announcements lodged with the NZX before and after the regulatory change. In examining changes in disclosure, we consider whether firms involved in prior price queries (i.e. regulation action) is associated with a

[5] The Fletcher Forests, Feltex, and Wool Equities cases are examples where alleged breaches of CD obligations did not lead to actual prosecutions (New Zealand Press Association, 2003; Macfie, 2006; Ward, 2007a, 2007b).

[6] In Australia, the recent Southcorp and Aristocat Leisure cases are important examples showing potential success of the civil penalty proceedings and class action against companies contravening the CD obligations (Golding and Kalfus, 2004).

change in disclosure patterns. We also code the types of disclosures firms make to determine some quality of the disclosures, whether the frequency relates to routine or non-routine, procedural or non-procedural, or internal or external matters. We extend the study by investigating whether corporate governance mechanisms (i.e. board size, separate roles for CEO and Chairman, board independence, board gender diversity and audit committee independence) have an impact on this effect.

We identify 29,515 market announcements released by 125 NZX-listed firms across the full study period (including 854 firm-years with financial reporting date ending between 31 January 1998 and 31 December 2007). The regulatory event occurred about midway through the sample, on 1 December 2002. The market announcements data are then examined for changes in the quantity of market announcements using both univariate and multivariate procedures. The multivariate procedures control for firm-specific characteristics (i.e. analyst following, cross-listing status, ownership concentration, firm performance, firm size, and growth prospects) known to impact the disclosure decision in the absence of regulatory change.

Our results provide strong evidence that the move to a statutory-backed continuous disclosure regime have a significant positive impact on corporate disclosure behaviour. In other words, there is a significant increase in the frequency of market announcements (overall, non-routine, non-procedural and external) in the post-reform period. There is also strong evidence regarding the impact of various corporate governance mechanisms including board size, the separate roles for CEO and Chairman, board independence, board gender diversity and audit committee independence on this change in corporate behaviour. Our results also show strong evidence that firms subject to share price

queries tended to update the market more frequently and the impact of various corporate governance mechanisms did differ for firms subject to share price queries compared to those not subject to share price queries.

The remainder of the paper is organised as follows. Section 2 provides an overview of New Zealand continuous disclosure regime. Section 3 summarises relevant disclosure theories and describes the research hypotheses. Section 4 provides an overview of the research design. Section 5 presents the results and the paper concludes in Section 6.

2. Background to the New Zealand Continuous Disclosure Regime

2.1 The Former Continuous Disclosure Regime

Prior to 1 December 2002, New Zealand securities law only required issuers to provide periodic disclosures (the filing of annual reports), episodic disclosures (e.g. the disclosure of share dealings by directors), and IPO related disclosures (Erlenwein, 2003). Listed issuers[7] were also bound by continuous disclosure obligations under the NZX Listing Rule 10.1.1. Under this Rule, listed issuers had a general obligation to disclose all price-sensitive information (relevant information) once the maintenance of confidentiality ceased to have a greater value to the issuer concerned than to the public. Like most stock exchanges requirements, the NZX listing rules are purely contractual provisions that issuers accept upon listing. Like other listing rules, the NZX had responsibility for monitoring and enforcing compliance with Rule 10.1.1. The purely contractual nature of the disclosure obligation led to concerns about the effectiveness of

[7] Collectively, all listed entities (companies and trusts) are referred to as listed issuers under the NZX Listing Rules.

Rule 10.1.1.[8] Specifically, the NZX's enforcement mechanisms were considered inadequate, the definition of relevant information was vague, uncertain and broad, and the rules were inconsistent with international standards (Erlenwein, 2003).

2.2 The New Continuous Disclosure Regime

The new CD regime applied from 1 December 2002 under the amended Securities Markets Act 1988 (SMA). Resembling the Australian model,[9] it was based on the principle that a strong (statutory-backed) continuous disclosure regime would deliver superior outcomes to a more onerous rules-based model and as a result, avoid the necessity for costly quarterly reporting[10]. Like the Australian regulatory arrangement, the SMA does not prescribe the CD regime applying to listed issuers; rather, it provides a statutory framework within which the NZX operates. The SMA requires a listed issuer (a party to a listing agreement with a registered exchange) to make any material information about events or matters available to participants in the registered exchange's market as they arise (SMA, Section 19D). Thus, the SMA preserves the autonomy of the NZX through recognising its primary responsibility for monitoring its own listing rules. It has also provided an enforcement regime to be implemented by

[8] Erlenwein (2003) notes that the powers of the NZX (formerly the NZSE) were examined by the Court of Appeal in *New Zealand Stock Exchange Listed Company Association Inc.* (1984) 1 NZLR 699, where it was held that the NZSE was neither empowered nor required to make statutory rules for listed companies. Thus, the NZSE can vary its rules arbitrarily and it also has the power to interpret its listing rules and make rulings regarding the application of the rules. Furthermore, the NZSE's contractual agreement with listed companies did not provide a role for the Securities Commission in ensuring enforcement.

[9] The Australian continuous disclosure regime represents a combination of stock exchange rules and statutory enactments. Under ASX Listing Rule 3.1, an entity has an immediate disclosure obligation when it becomes aware of any information that a reasonable person would expect to have a material effect on the price or value of its securities. The ASX continuous disclosure requirements have been backed by statutory sanctions since 5 September 1994. A failure to comply the continuous disclosure obligations could lead to civil and criminal penalties.

[10] A majority of participants in the New Zealand Securities Commission's consultation process regarding to corporate governance rejected the proposition of mandatory quarterly reporting for three reasons: (1) the continuous disclosure regime is sufficient, (2) unnecessary compliance costs, and (3) the risk of entities managing short-term earnings (New Zealand Securities Commission, 2004, p.57).

either the Securities Commission, with its prosecutory role, or any other person with an interest in any failure to disclose. The SMA emphasises investor protection through an informed market – a market in which "material information" must be released on a timely basis. According to Section 19E, material information is defined as information that:

> *a reasonable person would expect, if it were generally available to the market, to have a material effect on the price or value of quoted securities of the public issuer*[11]

Coinciding with the introduction of the amended SMA, on 1 December 2002 the NZX introduced revised to ensure compatibility with the SMA. The revised rule provides that an issuer should release material information immediately once becoming "aware" of it. A listed issuer is deemed to have come into possession of material information once a director or executive officer has become aware of it in the course of the performance of his or her duties (Listing Rule 10.1.1). To assist companies in identifying material information, guidance notes to the listing rule provide a non-exhaustive list of events.

The NZX has recognised that there are situations where the issuer should legally be allowed to withhold material information. Although not incorporated into the SMA, the "carve-out" provisions are a vital part of the continuous disclosure regime. According to the provisions, material information does not have to be released when: (1) a reasonable person would not expect the information to be disclosed; and, (2) the information is confidential and its confidentiality is maintained; and, (3) it would either be illegal to

[11] Erlenwein (2003) and McGill (2004) question the vagueness of the terms "reasonable person" and "material information" as defined in the SMA.

release the information, or it contains an incomplete proposal or negotiation, or comprises matters or supposition, or is insufficiently definite, or is for internal management only, or is a trade secret. Even if all three criteria are met, a firm can still be required to release specific information if it is necessary to prevent the development of a false market in a firm's securities.[12]

If an issuer is found to have breached the CD provisions, the Securities Commission has the power under the amended SMA 1988 to issue an order requiring the issuer to disclose the necessary information and to publish corrective statements at the firm's expense. If the issuer commits a criminal offence in contravention of an order, a fine of up to $30,000 can be imposed. The Court may also make civil orders requiring disclosure or corrective statements, impose pecuniary penalties of up to $300,000, make compensatory orders, and order the payment of the Securities Commission's costs and expenses.

In many aspects, the disclosure regime introduced through the SMA resembles the recent Australian disclosure model.[13] While harmonising rules across jurisdictions can reduce costs for cross-listed firms, it has been argued that costs have increased disproportionately for other NZX-listed companies.[14] It is also not clear whether a statutory model is more effective than alternatives, such as the more prescriptive U.S. approach, in changing corporate disclosure behaviour. Whether there is an improvement

[12] A false market is "a market for quoted securities which is materially influenced by false or misleading information" (NZX Listing Rule 10.1.1 (c)).
[13] The level of enforcement of Australian continuous disclosure regime has significantly increased in the post-2000 period (ASIC Consultation Paper 5: Heard it on the grapevine, 1999; ASIC Launches National Continuous Disclosure Surveillance Program, 2000; The CLERP Audit Reform and Disclosure Act, 2004)).
[14] See Erlenwein (2003), Gaynor (2003), McGill (2004), and Fargher (2004) for critiques of the new continuous disclosure rules. Also see Meade (2006) for the comparison of the New Zealand CD regime with the Australian CD regime, and the U.S. Regulation FD regime.

in timely information flows depends on whether managers perceive the increased costs of withholding information outweigh the expected benefits.

2.3 The Share Price Query Regime

The New Zealand securities market operates as a co-regulatory model – the NZX supervises and monitors the listed firms and assists the Financial Markets Authority (previously the Securities Commission) under SMA.[15] The NZX monitors trading activities, in particular, for unusual price or volume fluctuations. The NZX surveillance branch has the power to send the firm a letter to draw attention to the fluctuation, to request the firm to explain if it has information that ought to be disclosed to the market, to explain the fluctuation. This query is publicly announced.

Generally, research interest in price queries relates to the quality and impact (market reaction) of the firms' responses to price queries. For example, Neagle and Tsykin (2001) produced an early descriptive study examining the firm's responses to price queries. More recently, Drienko and Sault (2011) used an event study methodology to assess the impact of trading query announcements and found significant positive shareholder wealth and volume effects associated with query announcements. Marsden and Poskitt (2009) examined the causes of price queries, to determine whether the pre-query price fluctuation is driven by informed investors or speculators. Their evidence suggests that informed traders. These findings are of interest to our study. If the price query is being generated by informed traders, this suggests that the firm's management is failing to provide the market with price sensitive information, hence disclosure failure. Accordingly, we use the evidence of past price queries as a variable of interest

[15] Refer to https://www.nzx.com/regulators/NZXR.

to subsequent disclosure behaviour. This is exploratory in the paper as we find very few (22 firm-year observations) price queries only in the post-reform period.

3 Literature Review and Hypothesis Development

3.1 The Disclosure Decision

The disclosure literature suggests a number of reasons why management may be willing or reluctant to publicly disclose information. The adverse selection hypothesis suggests that managers choose to disclose or withhold information depending on a trade-off between the associated proprietary costs and expected benefits of informing investors (Verrecchia, 1983; Dye, 1985; Jung and Kwon, 1988). From a signalling perspective, managers may disclose negative information to deter entry of competitors to the product markets (Dye, 1986; Wagenhofer, 1990) or signal the superior quality of their firms (Akerlof, 1970; Teoh and Hwang, 1991). Managers may wish to signal the perceived inaccuracies in the market estimates of the firm's prospects (Ajinkya and Gift, 1984) and reduce the private information acquisition costs to investors (King et al., 1990). Alignment of the market's expectations may also be a desirable objective to mitigate potential litigation costs (Skinner, 1994, 1997; Cao and Narayanamoorthy, 2006) or reputation impairment costs (Skinner, 1994; Graham et al., 2005; Tucker, 2006) arising from earnings surprises. Voluntary disclosure of earnings forecasts and other information could be used to minimise cost of capital (Diamond and Verrecchia, 1991; Lang and Lundholm, 1996; Botosan, 1997; Graham et al., 2005). However, managers might also opportunistically utilise disclosure to maximize their compensation (Aboody and Kasznik, 2000).

Collectively, the voluntary disclosure research suggests that managers balance conflicting interests in deciding to disclose or withhold information. Ultimately the decision to disclose is strategically driven and influenced by the nature of the information held by managers, incentives of managers, circumstances of the firm, and expected reaction by investors to the disclosure.[16] Intervention in the form of mandatory disclosure rules increases costs for non-compliance and leads managers to reassess their disclosure strategies. Research shows that the nature of the rule change and legal system contribute to observed variation in disclosure behaviour across regimes. For instance, the strong culture of private litigation in the U.S. appears to precipitate the early disclosure of bad news relative to good news (Skinner, 1994; Kasznik and Lev, 1995; Soffer et al., 2000; Baginski et al., 2002). A similar level of asymmetrical treatment of news in not observed in Canada or in Japan where litigation risk is low (Baginski et al., 2002; Kato et al., 2006).

3.2 The Impact of Statutory Sanctions on the Frequency of Market Announcements

In the absence of research on the overall disclosure of NZX-listed firms,[17] it is difficult to predict how statutory sanctions affected the frequency of market announcements released by NZX-listed firms.[18] *A priori* we would expect any change in disclosure practices arising from the introduction of statutory sanctions would be similar to those observed in Australia following the introduction of their statutory CD disclosure regime

[16] Refer to Healy and Palepu (2001) and Verrecchia (2001) for reviews of the disclosure literature.
[17] Prior NZ disclosure research only focus on voluntary disclosure in interim or annual reports or management earnings forecasts (Bradbury, 1992; Hossain et al., 1995; Owusu-Ansah and Yeoh, 2005; Wong and Wong, 2006; Dunstan et al., 2011).
[18] Other NZ studies on the effectiveness of the regime examine a number of alternative measures including bid-ask spreads, stock liquidity, market spreads, analysts' consensus forecast and dispersion, stock market reaction to earnings announcements (Gilbert et al., 2005; Marsden et al., 2006; Poskitt and Yang, 2006).

in 1994. The Australian findings are generally supportive of an overall increase in the frequency of public disclosures.

In an early study examining the capital market impact of the Australian statutory-backed CD regime, Brown et al. (1999) reveal that there is an increase in the frequency of price-sensitive disclosures made by the ASX-listed firms following the introduction of statutory sanctions. However, the increase is confined to relatively small firms and for firms which are more likely to reveal bad news. However, their study only examines a relatively short period around the 1994 introduction date (from August 1992 to March 1996) in which the enforcement action is considered to be weak.[19]

In a more recent study, Chan et al. (2007) investigate the extent and nature of management earnings forecasts for a large sample of analyst followed companies listed on the ASX for the period 1994 to 2001. Their results show that the increased enforcement action by the Australian Securities and Investment Commission and the effects of legislative changes to the Australian CD regime have significantly increased the level of non-routine earnings forecasts in the period after 1 January 2000.[20]

In a recent study examining the impact of the continuous disclosure reform on management earnings forecast behaviour in New Zealand, Dunstan et al. (2011) found a strong evidence of significant changes in forecasting behaviour in the post-reform period. Specifically, firms were more likely to issue earnings forecasts to pre-empt

[19] There is little evidence that compliance with the CD regime was effectively enforced by either regulatory authorities or shareholders until the Southcorp case in 2003 (Golding and Kalfus, 2004).
[20] In the period immediately following the introduction of statutory sanctions in Australia, Gallery et al. (2002) observe that most earnings forecasts clustered around announcements provided in conjunction with a routine event such as the Chairman's Address or the release of a periodic report.

earnings announcements and those earnings forecasts exhibited higher frequency and improved qualitative characteristics (better precision and accuracy).

Assuming that the New Zealand regulation has had a similar impact on the overall corporate disclosure behaviour, we would expect to see an increase in the frequency of market announcements released following the introduction of New Zealand statutory sanctions in 2002. That is, when managers become aware of any material information which will impact on stock price, they are more likely to release announcements to the market following the introduction of statutory sanctions. Accordingly, we test the following hypotheses:

> *H1: The frequency of market announcements released to the NZX increases following the introduction of statutory sanctions.*

3.3 Corporate Governance and the Impact of Statutory Sanctions on the Frequency of Market Announcements

Corporate governance is especially important to ameliorate those agency problems arising from the separation of ownership and control and where such problems cannot be satisfactorily contracted away due to significant uncertainty, information asymmetry and contracting costs (Hart, 1995). Agency costs could be also mitigated by effective corporate governance mechanisms through enhanced corporate disclosure (Jensen and Meckling, 1976). And as argued by Gillan (2006) that the board of directors is the lynchpin of corporate governance.

Therefore, we contend that beside the change in regulation (i.e. the change to a statutory-backed continuous disclosure regime), corporate governance mechanisms and

specifically the board structure would play an important role in shaping corporate disclosure behaviour. Accordingly, corporate governance mechanisms might diminish or augment the impact of the statutory-backed continuous disclosure regime on corporate disclosure behaviour. We, therefore, propose the following hypotheses in a null form:

H2a: The frequency of market announcements released to the NZX increases following the introduction of statutory sanctions regardless of a firm's board size.

H2b: The frequency of market announcements released to the NZX increases following the introduction of statutory sanctions regardless of whether a firm has separate roles for CEO and Chairman.

H2c: The frequency of market announcements released to the NZX increases following the introduction of statutory sanctions regardless of a firm's level of board independence.

H2d: The frequency of market announcements released to the NZX increases following the introduction of statutory sanctions regardless of a firm's level of board gender diversity.

H2e: The frequency of market announcements released to the NZX increases following the introduction of statutory sanctions regardless of a firm's level of audit committee independence.

4 Research Design

4.1 Study Period and Sample

The selected study period is an eleven-year period encompassing all market announcements made by firms regarding the financial years ending between 31 January

1998 and 31 December 2007.[21] The final sample comprises 125 NZX-listed firms. These firms cover a total of 854 firm-years during which a total of 29,515 market announcements (including 16,720 non-routine, 8,286 non-procedural and 5,403 external market announcements) were issued. Details about this sample selection process are provided in Table 1.

[INSERT TABLE 1 HERE]

4.2 Data Sources

The NZX listing status was extracted from the Events section of the NZX database as at 17 September 2008. The cross-listing status was taken directly from the NZX helpline services. The analyst following information was taken from the Forecasts section of the NZX database. All market announcements were extracted from the Announcements section of the NZX database. Data related to ownership concentration and board structure were carefully extracted from the annual reports which are provided in the Annual Reports section of the NZX database. Accounting and market-related data were obtained from either the NZX or Datastream database.

4.3 Measure for the Quantity of Public Disclosures

The quantity of public disclosures for each financial reporting period is measured by the total number of market announcements released to the NZX between the release dates

[21] The starting financial year ending on 31 January 1998 is chosen as it is the earliest financial year where the disclosure data are made available on the NZX database. The ending financial year ending on 31 December 2007 is selected to avoid any contamination that may arise from the further amendments to the continuous disclosure provisions under the Securities Markets Amendment Act 2002 which came into force on 29 February 2008. These amendments give the Securities Commission the power to seek pecuniary penalties and compensation from individual directors and officers involved in any continuous disclosure breaches. This decision to avoid the confounding impact of the further amendments to the Securities Markets Act 1988 is supported by the Securities Commission's recent launching of a case against Nuplex Industries Limited and its current and former directors for the breaches of continuous disclosure requirements.

of the previous year's earnings announcement and the current year's earnings announcement. The market announcements are classified into routine/non-routine, procedural/non-procedural, internal/external categories.

Market announcements in relation to events that are periodic or expected are considered to be routine and market announcements that are not periodic or expected are considered to be non-routine. Examples of routine events include financial reports, chairmen's addresses at the AGM, and letters to shareholders.

Market announcements are divided into procedural and non-procedural by applying a counter-factual test. The test asks if the market announcement was not made, would it be likely that the lack of disclosure would result in enforcements. Market announcements found probable or likely to result in enforcements (in the event of the lack of disclosure) are classified as procedural and market announcements found to be improbable or unlikely to result in enforcements (in the event of the lack of disclosure) are classified as non-procedural.

Market announcements considered to arise from management controlled information are classified as internal and market announcements about external events not under control of management are classified as external. This division acknowledges that not all market announcements released under the continuous disclosure regime are within the control of the organisational management as some market announcements are made regarding the actions of outside parties.

4.4 Measure of Continuous Disclosure Regulatory Reform

The statutory-backed continuous disclosure reform came into effect from 1 December 2002 under the Securities Markets Amendment Act 2002. Therefore, 1 December 2002 is chosen as the cut-off between the pre-reform and post-reform periods. All firm-years with financial reporting dates ending before (after) 1 December 2002 are classified to be in the pre-reform (post-reform) period.

4.5 Measures of Corporate Governance Mechanisms

Board size: Board size is measured by the number of directors on the board.

The separation of CEO and Chairman: This measures whether or not a firm has separate positions for CEO and Chairman.

Board independence: Board independence is measured by the percentage of non-executive directors on the board.

Board gender diversity: Board gender diversity is measured by the percentage of female directors on the board.

Audit committee independence: This measures whether or not a firm has formally establishes an audit committee and further whether or not the formally established audit committee comprises a majority of non-executive directors.

4.6 Hypothesis Testing Procedures

The hypotheses are tested using univariate methods, and due to the expected interactions across constructs, multivariate methods are employed to jointly test hypotheses and to control for common firm-specific factors expected to impact on the disclosure decisions. Given the nature of the quantity of public disclosures, we estimate

the Poisson regression model to make inferences about the hypothesised relationships and to control for the firm-specific attributes. The model specification is as follows:

$$ANNOUNCEMENT/NON\text{-}ROUTINE/NON\text{-}PROCEDURAL/EXTERNAL_{i,t} = a_0 + a_1 REFORM_{i,t} + a_2 BRDSIZE_{i,t} + a_3 REFORM\_BRDSIZE_{i,t} + a_4 CEOCHAIR_{i,t} + a_5 REFORM\_CEOCHAIR_{i,t} + a_6 BRDINDP_{i,t} + a_7 REFORM\_BRDINDP_{i,t} + a_8 BRDDIVERSITY_{i,t} + a_9 REFORM\_BRDDIVERSITY_{i,t} + a_{10} AUDITCOM_{i,t} + a_{11} REFORM\_AUDITCOM_{i,t} + a_{12} ANALYST_{i,t} + a_{13} ASXLIST_{i,t} + a_{14} OWNCON_{i,t} + a_{15} OWNCON^2_{i,t} + a_{16} ECSIGN_{i,t} + a_{17} EC_{i,t} + a_{18} SIZE_{i,t} + a_{19} MB_{i,t} + \varepsilon_{i,t} \quad (1)$$

A significant positive coefficient for the *REFORM* variable will confirm H1. Insignificant coefficients for the interaction variables including *REFORM_BRDSIZE*, *REFORM_CEOCHAIR*, *REFORM_BRDINDP*, *REFORM_BRDDIVERSITY* and *REFORM_AUDITCOM* will confirm H2a-e, respectively. The definitions of the dependent variables in the equations are as follows:

ANNOUNCEMENT is the total number of market announcements released to the NZX between the release dates of the previous year's earnings announcement and the current year's earnings announcement.
NON-ROUTINE is the total number of non-routine market announcements released to the NZX between the release dates of the previous year's earnings announcement and the current year's earnings announcement.
NON-PROCEDURAL is the total number of non-procedural market announcements released to the NZX between the release dates of the previous year's earnings announcement and the current year's earnings announcement.
EXTERNAL is the total number of external market announcements released to the NZX between the release dates of the previous year's earnings announcement and the current year's earnings announcement.
REFORM is a dichotomous variable taking the value of 1 if the current financial year ends in the post-reform period and 0 otherwise.
BRDSIZE the number of directors on the board
REFORM_BRDSIZE is *REFORM* multiplied by *BRDSIZE*.
CEOCHAIR is a dichotomous variable taking the value of 1 for separate CEO and Chairman and 0 otherwise.
REFORM_CEOCHAIR is *REFORM* multiplied by *CEOCHAIR*
BRDINDP is the percentage of non-executive directors on the board.
REFORM_BRDINDP is *REFORM* multiplied by *BRDINDP*.
BRDDIVERSITY is the percentage of female directors on the board.
REFORM_BRDDIVERSITY is *REFORM* multiplied by *BRDDIVERSITY*.
AUDITCOM is a ordinal variable taking the value of 0 if the firm did not formally establish an audit committee, 1 if the firm did formally established an audit committee, and 2 if the formally established audit committee comprises a majority of non-executive directors.
REFORM_AUDITCOM is *REFORM* multiplied by *AUDITCOM*.
ANALYST is a dichotomous variable taking the value of 1 if the firm is followed by analysts and 0 otherwise.
ASXLIST is a dichotomous variable taking the value of 1 if the firm is cross-listed on the Australian Securities Exchange (ASX) and 0 otherwise.
OWNCON is the value of the Herfindahl index of concentration of top five largest shareholders.

OWNCON is *OWNCON* square.
ECSIGN is a dichotomous variable taking the value of 1 for a positive current financial year earnings per share change and 0 otherwise.
EC is the natural logarithm of the absolute value of the percentage change in earnings per share deflated by share price at the beginning of the financial year.
SIZE is the natural logarithm of the total assets at the end of the current financial year.
MB is the natural logarithm of the market value of equity divided by the book value of equity at the end of the current financial year.

The *ANALYST* variable is included as analysts are argued to performing a monitoring role reducing the opportunities available to managers to capture excessive pecuniary and non-pecuniary benefits from shareholders (Jensen and Meckling, 1976). Also, empirical has shown that firms followed by analysts tend to update the market more frequently (Chan et al., 2008). The *ASXLIST* variable is included because a number of NZX-listed companies are also listed on the ASX where continuous disclosure rules have existed prior to the introduction of statutory sanctions[22]. On the one hand, large shareholders are better at monitoring managers' activities as they could absorb greater monitoring and takeover costs (Shleifer and Vishny, 1986). On the other hand, large shareholders could exercise their absolute controlling rights in the firm, exerting a powerful influence on managers in order to maximise their own benefits at the cost of small shareholders (Pound, 1988; Holmstrom and Tirole, 1993; Makhija and Patton, 2004). Therefore, the *OWNCON* and $OWNCON^2$ variables are included. The independent variables *ECSIGN*, *EC*, *SIZE*, and *MB* are those that have been commonly used in prior disclosure research (Skinner, 1994; Kasznik and Lev, 1995; Baginski et al., 2002; Gallery et al., 2002; Baginski et al., 2006; Chan et al., 2007) and control for firm-specific factors that lead to differences in forecasting behaviour across firms independently of the disclosure regime.

[22] For example, the Australian CD rules have become increasingly more onerous since 1994.

In order to test whether the disclosure behaviour of firms subject to share price queries does differ from those not subject to share price queries, and whether corporate governance mechanisms do augment or diminish the impact of share price queries on firm disclosure behaviour, we construct the following model:

$$ANNOUNCEMENT/NON\text{-}ROUTINE/NON\text{-}PROCEDURAL/EXTERNAL_{i,t} = a_0 + a_1SPQ_{i,t} + a_2BRDSIZE_{i,t} + a_3SPQ\_BRDSIZE_{i,t} + a_4CEOCHAIR_{i,t} + a_5SPQ\_CEOCHAIR_{i,t} + a_6BRDINDP_{i,t} + a_7SPQ\_BRDINDP_{i,t} + a_8BRDDIVERSITY_{i,t} + a_9SPQ\_BRDDIVERSITY_{i,t} + a_{10}AUDITCOM_{i,t} + a_{11}SPQ\_AUDITCOM_{i,t} + a_{12}ANALYST_{i,t} + a_{13}ASXLIST_{i,t} + a_{14}OWNCON_{i,t} + a_{15}OWNCON^2_{i,t} + a_{16}ECSIGN_{i,t} + a_{17}EC_{i,t} + a_{18}SIZE_{i,t} + a_{19}MB_{i,t} + \varepsilon_{i,t} \quad (2)$$

Significant coefficients for the *SPQ* variable and the interaction variables including *SPQ_BRDSIZE*, *SPQ_CEOCHAIR*, *SPQ_BRDINDP*, *SPQ_BRDDIVERSITY* and *SPQ_AUDITCOM* will show evidence about the effect of share price queries on corporate disclosure behaviour as well as the impact of corporate governance on the effect of share price queries.

5 Results

5.1 Descriptive Statistics and Univariate Results

Table 2 shows the number of firm-year observations where firms subject or not subject to share price queries partitioned by years and by the pre/post-reform periods. We observe a low number of share price queries received by firms in our sample. It is evident in Table 2 that all share price queries were received from the year 2003 onwards or in the post-reform period.

[INSERT TABLE 2 HERE]

Table 3 presents the descriptive statistics for the dependent and independent variables. The mean and median of the total of market announcements (non-routine, non-

procedural and external market announcements) is 35 (20, 10 and 6), and 24 (12, 6 and 3), respectively. There are 57,73%, 2.58%, 89.58%, 76.46%, 46.72%, 16.16%, and 56.32% firm-years in the post-reform period, subject to share price queries, having separate roles for CEO and Chairman, having a formally established audit committee with a majority of non-executive directors, followed by analysts, cross-listed on the ASX, and experiencing a positive change in earnings, respectively. The mean and median of ownership concentration is 0.186 and 0.124, respectively, which is regarded as significantly high. The average board size is 6. The percentage of non-executive directors and female directors on the board is 81.7% and 5.3%, respectively. Further information in Table 2 indicates the mean of earnings change, firm size and growth options of -3.315, 18.675 and 0.402, respectively.

[INSERT TABLE 3 HERE]

To facilitate the analysis of H1 and H2a-e, which investigate the impact of the statutory-backed continuous disclosure regime on corporate disclosure behaviour and whether corporate governance mechanisms diminish or augment the impact, we first divide the 854 firm-year observations in the entire sample into the pre- and post-reform periods. As can be seen from Table 4, the mean and median of total market announcements (overall, non-routine, non-procedural and external) significantly increased in the post-reform period. Firms in the post-reform period have a smaller board, separate roles for CEO and Chairman, higher percentage of female directors on the board, and formally established audit committee comprising a majority of non-executive directors. There are a higher percentage of firms followed by analyst and cross-listed on the ASX in the

post-reform period. In addition, firms in the post-reform period experienced a smaller change in earnings and had higher growth options.

[INSERT TABLE 4 HERE]

The correlation coefficients among independent and control variables are provided in Table 5. Pearson, Spearman and Phi correlation coefficients are provided for correlation between two continuous variables, between one categorical variable and one continuous variable, and between two categorical variables, respectively. It is obvious from Table 5 that none of the correlation coefficients show evidence for any serious multicollinearity problem.

[INSERT TABLE 5 HERE]

5.2 Multivariate Results

The regression results of testing our hypotheses are presented in Tables 6 to 9. The estimate coefficients on the *REFORM* variable is positive and significant at 1 percent level, which supports H1 that firms disclosure more information (overall, non-routine, non-procedural and external) to the market in the post-reform period.

The estimated coefficients on the *BRDSIZE* and *REFORM_BRDSIZE* variables are significant negative at 1 percent level (except for 5 percent level for the *BRDSIZE* variable and not significant for the *REFORM_BRDSIZE* variable for the external market announcements); therefore, H2a is rejected. Firms with larger board tend to release a smaller number of market announcements (overall, non-routine, non-procedural and external) and this finding is more obvious in the post-reform period (except for external market announcements).

The estimated coefficients on the *CEOCHAIR* and *REFORM_CEOCHAIR* variables are significantly negative and positive at 1 percent level for the overall and non-routine market announcements; thus rejecting H2b. Firms having separate roles for CEO and Chairman were less likely to update the market with material information (overall and non-routine). However, in the post-reform period, firms having separate roles for CEO and Chairman were more likely to provide market with material information (overall and non-routine).

The estimated coefficients on the *BRDINDP* variable are significantly positive at 1 percent level and the estimated coefficients on the *REFORM_BRDINDP* are not significant, which effectively supports H2c. Firms with higher percentage of non-executive directors on board tend to release more announcements (overall, non-routine, non-procedural and external) to the market and this finding holds across the pre- and post-reform period.

In general, firms with higher percentage of female directors on board provide a smaller (larger) number of market announcements (overall, non-routine, non-procedural and external) in the pre (post)-reform periods, respectively. The significant positive estimated coefficients on the *REFORM_BRDDIVERSITY* variable for the overall, non-routine and external market announcements effectively reject H2d.

Firms with a majority of non-executive directors on their audit committee were less likely to provide market with material information (overall, non-routine and external) in the pre-reform period while those with a majority of non-executive directors on their audit committee informed the market more frequently in the post-reform period

(significantly positive coefficients on the *REFORM_AUDITCOM* variable). Therefore, H2e is effectively rejected.

Further information in Tables 6 to 9 reveals that firms followed by analysts (except for external market announcements), cross-listed on the ASX (except for external market announcements), with extremely low or high level of ownership concentration, experiencing a decline in earnings (except for external market announcements) and larger magnitude of earnings changes, larger firms and firms with higher level of growth options (except for external market announcements) were more likely to disclosure information to the market.

[INSERT TABLES 6 TO 9 HERE]

The empirical results regarding the impact of share price queries on firms' disclosure behaviour in the post-reform period as well as the potential impact of corporate governance mechanisms on that impact of share price queries are presented in Tables 10 to 13. Firms subject to share price queries provided market with material information more frequently. Compared to those not subject to share price queries, firms with smaller board, having separate roles for CEO and Chairman (except for non-routine and non-procedural market announcements), lower percentage of non-executive (except for non-routine and non-procedural market announcements) or female directors on board, and audit committee with a majority of non-executive directors were more likely to update the market with material information. These results show that share price queries issued by the stock exchanges do have a significant impact on firms' disclosure behaviour and this impact does vary for firms with different corporate governance structure.

[INSERT TABLES 10 TO 13 HERE]

Furthermore, according to Hermalin and Weisbach (2003), there are other factors which might impact both corporate governance (board structure in particular) and firm attributes; therefore, a spurious correlation could be observed between board structure and firm attributes. The firm attributes mentioned in their paper could include corporate disclosure behaviour. Denis and Sarin (1999) document that board structure is related to firm size, leverage and growth prospects. In order to address the concern about the expected spurious relationship between board structure and corporate disclosure behaviour and detect a one-way causal relationship of board structure on corporate disclosure behaviour, a two stage least squares method is utilised. The natural logarithm of the total assets, liabilities to equities ratio and the natural logarithm of the market value of equity divided by the book value of equities are used as proxies for firm size, leverage and growth prospects, respectively.[23] The results from this analysis provide consistent results with the original findings.

6 Conclusion

The objective of our study is to investigate the impact of the statutory-backed continuous disclosure regime on the quantity of market disclosures in New Zealand, and whether this impact is diminished or augmented by corporate governance mechanisms including board size, separate roles for CEO and Chairman, board independence, board gender diversity and audit committee independence.

[23] In the first stage, each board structure indicator was regressed on the three proxies for firm size, leverage and growth prospects and the residuals of each board structure indicator were obtained. These residuals represent the unexplained portion of board structure indicators which are not explained by the firm-specific characteristics identified in the prior literature. In the second stage, these residuals replace the original board structure indicators in the testing model.

Based on a sample of 854 firm-years covered by 125 firms listed on the NZX with financial reporting dates ending between 31 January 1998 and 31 December 2007, we provide significant evidence on the positive impact of the statutory-backed continuous disclosure regime on the quantity of market disclosures (overall, non-routine, non-procedural and external), and that the impact was augmented by the separate roles for CEO and Chairman, board gender diversity and audit committee independence, and diminished by board size.

Also, we show significant evidence about the impact of share price queries on corporate disclosure behaviour which does significantly vary with different corporate governance structure.

Our findings provide important implications for corporate regulators in their quest for a superior disclosure regime. Importantly, corporate governance mechanisms have an important role in shaping a firm's corporate disclosure behaviour and the impact of a more rigorous disclosure regime on corporate disclosure behaviour varies depending on the strength of corporate governance mechanisms.

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Table 1
Sample Selection Procedure

Selecting criteria	Number of Observations
Sample firms	
Total firms recorded in the Events section of the NZX database as at 17 September 2008	317
Less firms recorded on the Events section of the NZX database not covered by the NZX database	(113)
Less firms listed on the NZAX	(31)
Less firms not issuing at least 5 annual reports since being listed on the NZSX or firms with missing market announcements	(48)
Total firms in the final sample	125
Sample firm-years	
Total firm-years in the final sample	897[1]
Less firm-years with missing disclosure, corporate governance, accounting or market data	43
Total firm-years in the final sample	854
Total firm-years subject to share price queries in the final sample	22
Sample market announcements	
Total market announcements in the final sample	29,515
Total non-routine market announcements in the final sample	16,720
Total non-procedural market announcements in the final sample	8,286
Total external market announcements in the final sample	5,403

[1] The total number of firm-years includes all firm-years with financial reporting dates ending between 31 January 1998 and 31 December 2007.

Table 2
The Number of Firm-year Observations where Firms Subject or Not Subject to Share Price Queries Partitioned by Years and the Pre/Post-Reform Periods

Year	Subject to Share Price Queries	Not Subject to Share Price Queries	Total
Panel A: Partitioned by Years			
1998	0	63	63
1999	0	72	72
2000	0	77	77
2001	0	83	83
2002	0	83	83
2003	2	92	94
2004	3	99	102
2005	5	88	93
2006	5	90	95
2007	7	85	92
Total	**22**	**832**	**854**
Panel B: Partitioned by the Pre/Post-Reform Periods			
Pre-reform Period	0	361	361
Post-reform Period	22	471	493
Total	**22**	**832**	**854**

Table 3
Descriptive Statistics

Variables	Mean Number	Median Percentage	Standard Deviation
ANNOUNCEMENT	35	24	33
NONROUTINE	20	12	23
NONPROCEDURAL	10	6	13
EXTERNAL	6	3	10
REFORM (pre-reform period)	361	42.27%	-
REFORM (post-reform period)	493	57.73%	-
SPQ (subject to share price query)	22	2.58%	-
SPQ (not subject to share price query)	832	97.42%	-
BRDSIZE	6	6	2
CEOCHAIR (CEO and Chairman duality)	89	10.42%	-
CEOCHAIR (separate CEO and Chairman)	765	89.58%	-
BRDINDP	0.817	0.833	0.186
BRDDIVERSITY	0.053	0.000	0.105
AUDITCOM (no formally established audit committee)	96	11.24%	-
AUDITCOM (formally established audit committee)	105	12.30%	-
AUDITCOM (formally established audit committee comprising a majority of non-executive directors)	653	76.46%	-
ANALYST (not followed by analyst)	455	53.28%	-
ANALYST (followed by analyst)	399	46.72%	-
ASXLIST (not cross-listed on the ASX)	716	83.84%	-
ASXLIST (cross-listed on the ASX)	138	16.16%	-
OWNCON	0.186	0.124	0.177
ECSIGN (negative earnings change)	373	43.68%	-
ECSIGN (positive earnings change)	481	56.32%	-
EC	-3.315	-3.164	1.792
SIZE	18.675	18.744	2.132
MB	0.402	0.350	0.888

Mean, median and standard deviation statistics are provided for continuous measures. Number and percentage are provided for categorical measures. Refer to Section 4 for definitions of variables.

Table 4
Univariate Comparison between Variables for Pre- and Post-Reform Firm-years

	Pre-Reform N = 361			Post-Reform N = 493			Pre- vs. Post-Reform
Variables	**Mean Number**	**Median Percentage**	**Standard Deviation**	**Mean Number**	**Median Percentage**	**Standard Deviation**	***t*-statistic (Mann-Whitney *z*-statistic)/χ^2 statistic**
ANNOUNCEMENT	27	19	25	41	30	37	6.537** (7.373**)
NONROUTINE	16	10	20	22	13	25	3.650** (4.043**)
NONPROCEDURAL	8	5	10	11	7	14	3.727** (3.981**)
EXTERNAL	5	3	8	7	4	12	2.922** (3.152**)
BRDSIZE	6	6	2	6	6	2	-3.644** (-3.586**)
CEOCHAIR (CEO and Chairman duality)	48	13.30%	-	41	8.32%	-	
CEOCHAIR (separate CEO and Chairman)	313	86.70%	-	452	91.68%	-	5.536*
BRDINDP	0.807	0.833	0.199	0.825	0.833	0.177	1.342^ (0.816)
BRDDIVERSITY	0.039	0.000	0.076	0.063	0.000	0.121	3.653** (2.804**)
AUDITCOM (no formally established audit committee)	59	16.34%	-	37	7.51%	-	
AUDITCOM (formally established audit committee)	63	17.45%	-	42	8.52%	-	
AUDITCOM (formally established audit committee comprising a majority of non-executive directors)	239	66.20%	-	414	83.98%	-	36.613**
ANALYST (not followed by analyst)	221	61.22%	-	234	47.46%	-	
ANALYST (followed by analyst)	140	38.78%	-	259	52.54%	-	15.838**
ASXLIST (not cross-listed on the ASX)	315	87.26%	-	401	81.34%	-	
ASXLIST (cross-listed on the ASX)	46	12.74%	-	92	18.66%	-	5.389*
OWNCON	0.195	0.145	0.174	0.178	0.111	0.179	-1.396^ (-2.116*)
ECSIGN (negative earnings change)	152	42.11%	-	221	44.83%	-	
ECSIGN (positive earnings change)	209	57.89%	-	272	55.17%	-	0.628
EC	-3.129	-3.084	1.742	-3.452	-3.210	1.818	-2.611** (-2.376*)
SIZE	18.677	18.611	1.995	18.673	18.883	2.230	-0.034 (0.299)
MB	0.182	0.136	0.887	0.564	0.501	0.854	6.359** (6.621**)

^, *, ** Characteristics are significantly different at the 0.1, 0.05, 0.01 levels, respectively (two-tailed). Mean, median and standard deviation statistics are provided for continuous measures. Number and percentage are provided for categorical measures. Refer to Section 4 for definitions of variables.

Table 5
Correlation Matrix for Independent and Control Variables

	REFORM	*SPQ*	*BRDSIZE*	*CEOCHAIR*	*BRDINDP*	*BRDDIVERSITY*	*AUDITCOM*
REFORM							
SPQ	0.139**						
BRDSIZE	-0.123**	-0.062^					
CEOCHAIR	0.081*	0.031	0.144**				
BRDINDP	0.028	-0.010	0.144**	0.307**			
BRDDIVERSITY	0.096**	-0.017	0.060^	0.033	0.003		
AUDITCOM	0.207**	0.061	0.217**	0.074	0.162**	0.136**	
ANALYST	0.136**	0.063^	0.369**	0.074*	0.086*	0.218**	0.191**
ASXLIST	0.079*	0.029	0.194**	0.027	-0.018	0.218**	0.103**
OWNCON	-0.072*	-0.072*	0.044	0.091**	0.184**	-0.036	0.107**
ECSIGN	0.027	0.039	-0.026	0.001	-0.045	-0.051	0.021
EC	-0.081*	-0.045	0.206**	0.055	0.094**	0.030	0.088*
SIZE	0.010	-0.071*	0.582**	0.091**	0.084*	0.146**	0.286**
MB	0.227**	0.120**	0.059^	0.089**	0.025	0.039	0.062^

	ANALYST	*ASXLIST*	*OWNCON*	*ECSIGN*	*EC*	*SIZE*	*MB*
REFORM							
SPQ							
BRDSIZE							
CEOCHAIR							
BRDINDP							
BRDDIVERSITY							
AUDITCOM							
ANALYST							
ASXLIST	0.061^						
OWNCON	0.101**	-0.229**					
ECSIGN	0.079*	0.030	0.013				
EC	0.186**	0.106**	-0.012	-0.015			
SIZE	0.543**	0.267**	0.154**	-0.049	0.292**		
MB	0.164**	0.087*	-0.033	0.037	-0.014	-0.073*	

^, * and ** denotes significance at the 0.1, 0.05 and 0.01 levels, respectively (two-tailed). Pearson, Spearman, and Phi correlation coefficients are provided for correlation between two continuous variables, between one categorical variable and one continuous variable, and between two categorical variables, respectively. Refer to Section 4 for definitions of variables.

Table 6
Factors Associated with the Total Market Announcements in the Pre- and Post-reform Periods

Variable	Predicted Sign	Full Sample	Pre-reform Sub-sample	Post-reform Sub-sample	Full Sample
Intercept	?	-0.117	-0.891	0.150	0.012
		(-1.550)	(-6.740**)	(1.600)	(0.140)
REFORM	+	0.266			0.002
		(19.530**)			(0.030)
BRDSIZE	+	-0.062	-0.090	-0.058	-0.047
		(-15.640**)	(-13.430**)	(-11.540**)	(-8.280**)
REFORM_BRDSIZE	?				-0.021
					(-3.100**)
CEOCHAIR	+	-0.072	-0.123	0.060	-0.201
		(-3.250**)	(-3.720**)	(1.940*)	(-6.190**)
REFORM_CEOCHAIR	?				0.224
					(5.020**)
BRDINDP	+	0.319	0.342	0.218	0.393
		(8.700**)	(5.140**)	(4.870**)	(6.130**)
REFORM_BRDINDP	?				-0.111
					(-1.430)
BRDDIVERSITY	+	0.590	-0.417	0.866	-0.141
		(10.720**)	(-2.900**)	(14.550**)	(-1.050)
REFORM_BRDDIVERSITY	?				0.907
					(6.270**)
AUDITCOM	+	0.057	-0.038	0.124	-0.009
		(4.810**)	(-2.310*)	(6.970**)	(-0.530)
REFORM_AUDITCOM	?				0.139
					(5.900**)
ANALYST	+	0.040	-0.249	0.154	0.051
		(2.940**)	(-9.980**)	(9.050**)	(3.700**)
ASXLIST	?	0.243	0.573	0.172	0.247
		(15.410**)	(19.820**)	(8.830**)	(15.540**)
OWNCON	+	-1.590	-0.876	-1.797	-1.584
		(-14.300**)	(-4.140**)	(-13.580**)	(-14.220**)
$OWNCON^2$	-	2.009	0.947	2.397	2.022
		(11.310**)	(2.670**)	(11.530**)	(11.350**)
ECSIGN	?	-0.052	0.003	-0.066	-0.055
		(-4.460**)	(0.130)	(-4.630**)	(-4.690**)
EC	+	0.036	0.062	0.023	0.035
		(10.050**)	(9.780**)	(5.230**)	(9.690**)
SIZE	+	0.196	0.258	0.181	0.193
		(48.990**)	(35.250**)	(36.650**)	(48.130**)
MB	?	0.080	0.135	0.078	0.084
		(10.840**)	(10.660**)	(8.360**)	(11.280**)
Pseudo R^2		0.335	0.298	0.336	0.339
Model χ^2		8,346.000	2,504.980	5,158.270	8,447.140
p-value		0.000**	0.000**	0.000**	0.000**
Number of observations		854	361	493	854

^, * and ** denotes significance at the 0.1, 0.05 and 0.01 levels, respectively. One-tailed (two-tailed) test is used when the coefficient sign is predicted (not predicted). Refer to section 4 for definitions of variables.

Table 7
Factors Associated with the Total Non-routine Market Announcements in the Pre- and Post-reform Periods

Variable	Predicted Sign	Full Sample	Pre-reform Sub-sample	Post-reform Sub-sample	Full Sample
Intercept	?	-1.404	-2.382	-1.161	-1.407
		(-13.800**)	(-13.890**)	(-8.950**)	(-11.930**)
REFORM	+	0.081			-0.009
		(4.570**)			(-0.090)
BRDSIZE	+	-0.108	-0.125	-0.109	-0.076
		(-20.060**)	(-14.490**)	(-15.590**)	(-10.370**)
REFORM_BRDSIZE	?				-0.054
					(-5.960**)
CEOCHAIR	+	-0.051	-0.153	0.096	-0.178
		(-1.720*)	(-3.550**)	(2.220*)	(-4.190**)
REFORM_CEOCHAIR	?				0.219
					(3.630**)
BRDINDP	+	0.379	0.348	0.302	0.430
		(7.740**)	(4.010**)	(4.960**)	(5.120**)
REFORM_BRDINDP	?				-0.067
					(-0.650)
BRDDIVERSITY	+	0.516	-0.260	0.794	0.163
		(6.770**)	(-1.440^)	(9.560**)	(0.980)
REFORM_BRDDIVERSITY	?				0.449
					(2.470*)
AUDITCOM	+	0.065	-0.054	0.161	-0.006
		(4.010**)	(-2.490**)	(6.420**)	(-0.300)
REFORM_AUDITCOM	?				0.156
					(4.810**)
ANALYST	+	0.120	-0.126	0.217	0.125
		(6.650**)	(-4.040**)	(9.370**)	(6.850**)
ASXLIST	?	0.337	0.582	0.310	0.344
		(16.310**)	(15.850**)	(11.980**)	(16.510**)
OWNCON	+	-1.183	-0.392	-1.598	-1.184
		(-7.960**)	(-1.450^)	(-8.840**)	(-7.950**)
$OWNCON^2$	-	1.377	0.428	1.959	1.400
		(5.790**)	(0.950)	(6.860**)	(5.870**)
ECSIGN	?	-0.071	0.027	-0.095	-0.069
		(-4.550**)	(1.020)	(-4.900**)	(-4.410**)
EC	+	0.039	0.091	0.013	0.039
		(8.130**)	(11.040**)	(2.15*)	(8.030**)
SIZE	+	0.244	0.320	0.219	0.244
		(45.560**)	(34.090**)	(32.520**)	(45.200**)
MB	?	0.094	0.185	0.060	0.098
		(9.510**)	(11.420**)	(4.690**)	(9.870**)
Pseudo R^2		0.307	0.324	0.306	0.310
Model χ^2		6,300.820	2,446.220	3,862.450	6,360.570
p-value		0.000**	0.000**	0.000**	0.000**
Number of observations		854	361	493	854

^, * and ** denotes significance at the 0.1, 0.05 and 0.01 levels, respectively. One-tailed (two-tailed) test is used when the coefficient sign is predicted (not predicted). Refer to section 4 for definitions of variables.

Table 8
Factors Associated with the Total Non-procedural Market Announcements in the Pre- and Post-reform Periods

Variable	Predicted Sign	Full Sample	Pre-reform Sub-sample	Post-reform Sub-sample	Full Sample
Intercept	?	-2.236	-2.290	-2.467	-2.122
		(-15.270**)	(-9.080**)	(-13.260**)	(-12.520**)
REFORM	+	0.120			-0.121
		(4.720**)			(-0.830)
BRDSIZE	+	-0.055	-0.066	-0.055	-0.036
		(-7.420**)	(-5.390**)	(-5.660**)	(-3.480**)
REFORM_BRDSIZE	?				-0.035
					(-2.820**)
CEOCHAIR	+	-0.017	-0.091	0.082	-0.081
		(-0.390)	(-1.420^)	(1.300^)	(-1.280)
REFORM_CEOCHAIR	?				0.112
					(1.260)
BRDINDP	+	0.459	0.244	0.478	0.353
		(6.400**)	(1.910*)	(5.400**)	(2.850**)
REFORM_BRDINDP	?				0.165
					(1.090)
BRDDIVERSITY	+	0.458	-0.253	0.637	0.305
		(4.070**)	(-0.970)	(5.160**)	(1.290^)
REFORM_BRDDIVERSITY	?				0.196
					(0.750)
AUDITCOM	+	0.073	-0.038	0.156	0.018
		(3.110**)	(-1.180)	(4.290**)	(0.590)
REFORM_AUDITCOM	?				0.127
					(2.690**)
ANALYST	+	0.039	0.006	-0.009	0.038
		(1.550^)	(0.120)	(-0.290)	(1.470^)
ASXLIST	?	0.503	0.756	0.409	0.512
		(17.570**)	(14.880**)	(11.310**)	(17.690**)
OWNCON	+	-1.934	-2.410	-1.789	-1.954
		(-9.220**)	(-6.320**)	(-7.040**)	(-9.290**)
$OWNCON^2$	-	2.909	4.387	2.401	2.964
		(8.800**)	(7.120**)	(6.000**)	(8.940**)
ECSIGN	?	-0.051	0.054	-0.092	-0.052
		(-2.300*)	(1.410)	(-3.330**)	(-2.320*)
EC	+	0.041	0.100	0.013	0.042
		(6.040**)	(8.390**)	(1.570^)	(6.140**)
SIZE	+	0.229	0.260	0.234	0.228
		(29.880**)	(18.740**)	(24.560**)	(29.690**)
MB	?	0.075	0.148	0.026	0.076
		(5.290**)	(6.120**)	(1.450)	(5.340**)
Pseudo R^2		0.310	0.333	0.300	0.312
Model χ^2		3,677.100	1,365.770	2,269.680	3,693.820
p-value		0.000**	0.000**	0.000**	0.000**
Number of observations		854	361	493	854

^, * and ** denotes significance at the 0.1, 0.05 and 0.01 levels, respectively. One-tailed (two-tailed) test is used when the coefficient sign is predicted (not predicted). Refer to section 4 for definitions of variables.

Table 9
Factors Associated with the Total External Market Announcements in the Pre- and Post-reform Periods

Variable	Predicted Sign	Full Sample	Pre-reform Sub-sample	Post-reform Sub-sample	Full Sample
Intercept	?	-1.567	-2.899	-0.824	-1.295
		(-8.780**)	(-9.760**)	(-3.630**)	(-6.410**)
REFORM	+	0.350			-0.127
		(11.110**)			(-0.770)
BRDSIZE	+	-0.015	-0.066	0.002	-0.025
		(-1.670*)	(-4.450**)	(0.180)	(-1.890*)
REFORM_BRDSIZE	?				0.017
					(1.040)
CEOCHAIR	+	-0.080	0.060	-0.104	-0.029
		(-1.600^)	(0.790)	(-1.530^)	(-0.380)
REFORM_CEOCHAIR	?				-0.103
					(-1.020)
BRDINDP	+	0.224	0.243	0.198	0.101
		(2.670**)	(1.740*)	(1.830*)	(0.750)
REFORM_BRDINDP	?				0.206
					(1.210)
BRDDIVERSITY	+	0.293	-0.642	0.584	-0.394
		(2.300*)	(-1.890*)	(4.200**)	(-1.230)
REFORM_BRDDIVERSITY	?				0.869
					(2.510*)
AUDITCOM	+	-0.037	-0.092	0.043	-0.091
		(-1.440^)	(-2.650**)	(1.070)	(-2.690**)
REFORM_AUDITCOM	?				0.146
					(2.860**)
ANALYST	+	-0.090	-0.445	0.080	-0.095
		(-2.840**)	(-8.050**)	(1.950*)	(-2.950**)
ASXLIST	?	-0.560	-0.144	-0.609	-0.546
		(-12.910**)	(-1.860^)	(-11.380**)	(-12.500**)
OWNCON	+	-2.690	-1.748	-2.605	-2.691
		(-10.520**)	(-3.640**)	(-8.450**)	(-10.510**)
$OWNCON^2$	-	3.981	1.172	4.376	4.023
		(10.010**)	(1.410^)	(9.460**)	(10.100**)
ECSIGN	?	-0.022	0.131	-0.110	-0.031
		(-0.810)	(2.730**)	(-3.230**)	(-1.120)
EC	+	0.079	0.057	0.091	0.079
		(9.460**)	(3.980**)	(8.780**)	(9.410**)
SIZE	+	0.203	0.285	0.168	0.201
		(21.530**)	(17.660**)	(13.950**)	(21.200**)
MB	?	-0.022	0.046	-0.037	-0.023
		(-1.250)	(1.650^)	(-1.630)	(-1.310)
Pseudo R^2		0.102	0.111	0.112	0.104
Model χ^2		1,073.010	410.580	744.910	1,097.000
p-value		0.000**	0.000**	0.000**	0.000**
Number of observations		854	361	493	854

^, * and ** denotes significance at the 0.1, 0.05 and 0.01 levels, respectively. One-tailed (two-tailed) test is used when the coefficient sign is predicted (not predicted). Refer to section 4 for definitions of variables.

Table 10
Factors Associated with the Total Market Announcements for Firms Subject or Not Subject to Share Price Queries in the Post-reform Period

Variable	Predicted Sign	Full Sample	Subject to Share Price Queries	Not Subject to Share Price Queries	Full Sample
Intercept	?	0.105	2.345	0.115	0.108
		(1.110)	(2.800**)	(1.190)	(1.140)
SPQ	?	0.266			-0.586
		(8.050**)			(-1.820^)
BRDSIZE	+	-0.059	-0.189	-0.050	-0.052
		(-11.660**)	(-4.100**)	(-9.700**)	(-10.180**)
SPQ_BRDSIZE	?				-0.085
					(-4.910**)
CEOCHAIR	+	0.051	-0.446	0.042	0.042
		(1.660*)	(-1.420^)	(1.330^)	(1.340^)
SPQ_CEOCHAIR	?				0.818
					(3.580**)
BRDINDP	+	0.224	0.127	0.225	0.222
		(5.000**)	(0.300)	(4.900**)	(4.840**)
SPQ_BRDINDP	?				-0.085
					(-0.390)
BRDDIVERSITY	+	0.867	0.722	0.969	0.966
		(14.590**)	(1.040)	(16.160**)	(16.080**)
SPQ_BRDDIVERSITY	?				-2.941
					(-8.510**)
AUDITCOM	+	0.118	0.553	0.098	0.098
		(6.680**)	(6.020**)	(5.360**)	(5.380**)
SPQ_AUDITCOM	?				0.443
					(4.990**)
ANALYST	+	0.162	1.543	0.161	0.168
		(9.480**)	(7.090**)	(9.230**)	(9.770**)
ASXLIST	?	0.166	1.290	0.134	0.159
		(8.520**)	(8.410**)	(6.690**)	(8.130**)
OWNCON	+	-1.820	0.160	-1.913	-1.758
		(-13.750**)	(0.060)	(-14.090**)	(-13.240**)
$OWNCON^2$	-	2.461	3.304	2.591	2.380
		(11.840**)	(0.340)	(12.220**)	(11.420**)
ECSIGN	?	-0.066	1.145	-0.086	-0.081
		(-4.570**)	(4.670**)	(-5.880**)	(-5.590**)
EC	+	0.023	-0.124	0.033	0.028
		(5.280**)	(-3.840**)	(7.320**)	(6.360**)
SIZE	+	0.184	-0.014	0.186	0.185
		(36.950**)	(-0.290)	(36.800**)	(37.020**)
MB	?	0.072	-0.154	0.056	0.064
		(7.720**)	(-1.610)	(5.830**)	(6.750**)
Pseudo R^2		0.340	0.669	0.346	0.350
Model χ^2		5,218.410	396.180	5,099.320	5,366.130**
p-value		0.000**	0.000**	0.000**	0.000**
Number of observations		493	22	471	493

^, * and ** denotes significance at the 0.1, 0.05 and 0.01 levels, respectively. One-tailed (two-tailed) test is used when the coefficient sign is predicted (not predicted). Refer to section 4 for definitions of variables.

Table 11
Factors Associated with the Total Non-routine Market Announcements for Firms Subject or Not Subject to Share Price Queries in the Post-reform Period

Variable	Predicted Sign	Full Sample	Subject to Share Price Queries	Not Subject to Share Price Queries	Full Sample
Intercept	?	-1.220	-0.017	-1.236	-1.208
		(-9.35**)	(-0.010)	(-9.290**)	(-9.190**)
SPQ	?	0.319			-0.657
		(7.18**)			(-1.510)
BRDSIZE	+	-0.110	-0.216	-0.100	-0.104
		(-15.730**)	(-3.130**)	(-14.030**)	(-14.490**)
SPQ_BRDSIZE	?				-0.087
					(-3.660**)
CEOCHAIR	+	0.085	0.048	0.084	0.087
		(1.960*)	(0.120)	(1.910*)	(1.970*)
SPQ_CEOCHAIR	?				0.418
					(1.520)
BRDINDP	+	0.312	1.371	0.302	0.288
		(5.120**)	(2.390**)	(4.850**)	(4.630**)
SPQ_BRDINDP	?				0.389
					(1.280)
BRDDIVERSITY	+	0.794	-1.731	0.914	0.911
		(9.570**)	(-1.670*)	(10.950**)	(10.870**)
SPQ_BRDDIVERSITY	?				-2.926
					(-6.200**)
AUDITCOM	+	0.154	0.605	0.136	0.136
		(6.130**)	(4.260**)	(5.260**)	(5.250**)
SPQ_AUDITCOM	?				0.514
					(3.760**)
ANALYST	+	0.226	1.258	0.217	0.232
		(9.720**)	(4.120**)	(9.160**)	(9.890**)
ASXLIST	?	0.302	1.338	0.270	0.299
		(11.670**)	(6.300**)	(10.130**)	(11.480**)
OWNCON	+	-1.622	9.228	-1.804	-1.544
		(-8.980**)	(2.210*)	(-9.720**)	(-8.520**)
$OWNCON^2$	-	2.030	-23.708	2.287	1.928
		(7.110**)	(-1.670*)	(7.850**)	(6.730**)
ECSIGN	?	-0.093	0.362	-0.109	-0.109
		(-4.760**)	(1.100)	(-5.460**)	(-5.530**)
EC	+	0.013	-0.160	0.023	0.017
		(2.230*)	(-3.420**)	(3.800**)	(2.920**)
SIZE	+	0.223	0.015	0.227	0.223
		(32.800**)	(0.220)	(32.820**)	(32.750**)
MB	?	0.053	-0.233	0.026	0.043
		(4.180**)	(-1.690^)	(1.960^)	(3.290**)
Pseudo R^2		0.310	0.655	0.312	0.316
Model χ^2		3,909.710	303.040	3,791.150	3,990.300
p-value		0.000**	0.000**	0.000**	0.000**
Number of observations		493	22	471	493

^, * and ** denotes significance at the 0.1, 0.05 and 0.01 levels, respectively. One-tailed (two-tailed) test is used when the coefficient sign is predicted (not predicted). Refer to section 4 for definitions of variables.

Table 12
Factors Associated with the Total Non-procedural Market Announcements for Firms Subject or Not Subject to Share Price Queries in the Post-reform Period

Variable	Predicted Sign	Full Sample	Subject to Share Price Queries	Not Subject to Share Price Queries	Full Sample
Intercept	?	-2.502	-6.639	-2.360	-2.449
		(-13.400**)	(-3.540**)	(-12.460**)	(-13.060**)
SPQ	?	0.199			-2.502
		(3.050**)			(-3.140**)
BRDSIZE	+	-0.055	-0.282	-0.046	-0.048
		(-5.740**)	(-2.960**)	(-4.660**)	(-4.870**)
SPQ_BRDSIZE	?				-0.119
					(-3.550**)
CEOCHAIR	+	0.075	0.472	0.071	0.073
		(1.190)	(0.680)	(1.110)	(1.140)
SPQ_CEOCHAIR	?				0.823
					(1.580)
BRDINDP	+	0.486	2.059	0.418	0.411
		(5.480**)	(2.110*)	(4.630**)	(4.560**)
SPQ_BRDINDP	?				1.518
					(3.170**)
BRDDIVERSITY	+	0.638	-3.450	0.826	0.826
		(5.180**)	(-1.960*)	(6.690**)	(6.690**)
SPQ_BRDDIVERSITY	?				-6.098
					(-6.060**)
AUDITCOM	+	0.151	0.930	0.138	0.134
		(4.180**)	(3.500**)	(3.710**)	(3.610**)
SPQ_AUDITCOM	?				0.885
					(3.430**)
ANALYST	+	-0.004	0.497	0.000	0.000
		(-0.140)	(1.030)	(0.010)	(0.010)
ASXLIST	?	0.404	0.464	0.420	0.411
		(11.170**)	(1.400)	(11.350**)	(11.270**)
OWNCON	+	-1.807	1.196	-1.776	-1.625
		(-7.110**)	(0.190)	(-6.800**)	(-6.360**)
$OWNCON^2$	-	2.447	-3.874	2.435	2.215
		(6.120**)	(-0.180)	(5.970**)	(5.520**)
ECSIGN	?	-0.091	0.539	-0.129	-0.118
		(-3.310**)	(1.140)	(-4.600**)	(-4.270**)
EC	+	0.014	-0.093	0.022	0.018
		(1.610^)	(-1.410^)	(2.540**)	(2.160*)
SIZE	+	0.236	0.317	0.232	0.236
		(24.650**)	(3.110**)	(23.820**)	(24.560**)
MB	?	0.023	0.030	0.009	0.010
		(1.240)	(0.160)	(0.460)	(0.560)
Pseudo R^2		0.302	0.568	0.309	0.316
Model χ^2		2,278.450	158.940	2,249.610	2,385.59
p-value		0.000**	0.000**	0.000**	0.000**
Number of observations		493	22	471	493

^, * and ** denotes significance at the 0.1, 0.05 and 0.01 levels, respectively. One-tailed (two-tailed) test is used when the coefficient sign is predicted (not predicted). Refer to section 4 for definitions of variables.

Table 13
Factors Associated with the Total External Market Announcements for Firms Subject or Not Subject to Share Price Queries in the Post-reform Period

Variable	Predicted Sign	Full Sample	Subject to Share Price Queries	Not Subject to Share Price Queries	Full Sample
Intercept	?	-0.865	-1.352	-0.834	-0.958
		(-3.800**)	(-0.570)	(-3.590**)	(-4.170**)
SPQ	?	0.290			-0.452
		(3.530**)			(-0.400)
BRDSIZE	+	0.001	-0.253	0.016	0.015
		(0.100)	(-2.380**)	(1.370^)	(1.260)
SPQ_BRDSIZE	?				-0.192
					(-4.300**)
CEOCHAIR	+	-0.113	0.674	-0.147	-0.145
		(-1.660*)	(0.580)	(-2.150*)	(-2.120*)
SPQ_CEOCHAIR	?				2.705
					(2.670**)
BRDINDP	+	0.202	-2.492	0.261	0.254
		(1.870*)	(-2.160*)	(2.360**)	(2.300*)
SPQ_BRDINDP	?				-1.755
					(-3.350**)
BRDDIVERSITY	+	0.578	1.715	0.719	0.718
		(4.160**)	(0.900)	(5.140**)	(5.130**)
SPQ_BRDDIVERSITY	?				-5.128
					(-5.540**)
AUDITCOM	+	0.039	0.462	0.011	0.008
		(0.980)	(2.280*)	(0.270)	(0.200)
SPQ_AUDITCOM	?				0.516
					(2.710**)
ANALYST	+	0.088	1.156	0.120	0.104
		(2.130*)	(2.000*)	(2.830**)	(2.490**)
ASXLIST	?	-0.613	-0.200	-0.632	-0.643
		(-11.440**)	(-0.410)	(-11.530**)	(-11.940**)
OWNCON	+	-2.621	-8.002	-2.836	-2.614
		(-8.500**)	(-1.130)	(-8.980**)	(-8.480**)
$OWNCON^2$	-	4.434	25.869	4.744	4.436
		(9.580**)	(1.130)	(10.050**)	(9.580**)
ECSIGN	?	-0.112	2.001	-0.160	-0.136
		(-3.300**)	(2.940**)	(-4.600**)	(-3.950**)
EC	+	0.090	-0.080	0.105	0.100
		(8.720**)	(-1.200)	(9.880**)	(9.630**)
SIZE	+	0.170	0.188	0.169	0.175
		(14.070**)	(1.380^)	(13.740**)	(14.340**)
MB	?	-0.042	0.043	-0.063	-0.059
		(-1.870^)	(0.200)	(-2.680**)	(-2.560*)
Pseudo R^2		0.113	0.473	0.125	0.128
Model χ^2		756.430	87.710	808.950	853.270
p-value		0.000**	0.000**	0.000**	0.000**
Number of observations		493	22	471	493

^, * and ** denotes significance at the 0.1, 0.05 and 0.01 levels, respectively. One-tailed (two-tailed) test is used when the coefficient sign is predicted (not predicted). Refer to section 4 for definitions of variables.